

of the foregoing embodiments was set to roughly 10°, this may be suitably adjusted such that the virtual image is projected outside the screen in accordance with the position of the mirror, projector and screen.

[0252] (14) With the shooting video game machine of the second embodiment, although the mirror rotation angle with respect to the visual line elevation was associated in advance upon displaying images and the image correction parameter was stored in advance, the parameters may be successively operated according to the procedure shown in FIG. 46. In addition, the whole or a part of the screen to which the image subject to correction is to be projected may incline upward or downward or curve or incline left and right or obliquely, or be made of a semicircle shape. Additionally, upon projecting to the overall screen curving (up/down, left/right, or in a semicircle), the overall screen may be divided in several areas and correction may be conducted as described above in accordance with the position of the respective areas. Further, a front screen and at least two screens inclining obliquely (when viewed from the player) may be disposed left/right or up/down so as to surround the player, and correction as described above may be conducted to the display of the two screens inclining obliquely upon continuously displaying on these three screens.

[0253] (15) Further, with the shooting video game machine of each of the foregoing embodiments, although only a portion of the dinosaur to make the attack was partially displayed upon approaching the virtual viewpoint, a location to which the player should pay attention during the game progress may be displayed while facing the direction of the virtual viewpoint within the game space.

[0254] (16) Moreover, with the shooting video game machine of each of the foregoing embodiments, although the mirror axis for rotating the mirror was set to be a single axis in order to shift the projected image in the upward and downward directions on the screen, for example, two mirror axes may be provided in order to shift the projected image in the upward/downward as well as the leftward/rightward directions on the screen.

[0255] (17) As shown in each of the foregoing embodiments, provided is a highly versatile orientation detection device enabling two-player games and the simultaneous computation of directions even in cases where there are a plurality of controllers.

[0256] (18) Since the structure is such that analysis is conducted with a three-dimensional matrix, this may be sufficiently employed in a mode of the controller shifting in a three-dimensional space. Thus, the applicable range may be broadened.

[0257] (19) With the second embodiment, although four markers 26 to 29 were disposed on the screen 2121, the disposition of one or two markers will suffice depending on the screen size and visual field of the CCD camera 213, and it is not necessary to dispose them in equal spacing.

[0258] (20) Two types of L-shaped markers having a mirror surface relationship (vertical axis or horizontal axis) may be adopted as the marker capable of being employed in the second embodiment. Here, since these are individually distinguishable; that is, since it is possible to distinguish the arrangement position, individual light-up control as in the present embodiment is no longer required. In addition, in a

mode where the rotational range of the controller is 180° or less, four-types of L frames having a mirror surface relationship with respect to the vertical axis and a mirror surface relationship with respect to the horizontal axis may be employed, and, since these are individually distinguishable; that is, since it is possible to distinguish the arrangement position, individual light-up control as in the present embodiment is no longer required at all. In other words, enabled is a mode where the disposition of orientation detection markers of different types (2 types or 4 types) having a mode in which the other axis with respect to the one axis of the biaxial direction includes mutually reverse axis information on the target area surface (screen, etc.) with a prescribed positional relationship. According to this, by employing differing orientation detection markers having a common basic form (in which the main axis and sub axis intersect), processing for individually identifying the same type of markers upon using the same will no longer be necessary.

[0259] Further, as another arrangement mode of markers, when providing an example with the arrangement of the present embodiment (four locations in the vertical direction of the left, right and center of the screen), two types of L frames or markers (among the foregoing four types) having a mirror surface relationship with respect to the vertical axis may also be disposed at a symmetrical position on the left and right side of the screen. In addition, since the two rows worth of markers adjacent in the upward and downward direction are mutually different types of markers, light-up control may be performed with three combination units; namely, the combination of the first row and second row, the combination of the second row and third row, and the combination of the third row and fourth row. Similarly, this may be employed in cases when the three types of L frames or the four types of L frames of mutually different types are disposed adjacently in unit of the number of types of L frames.

[0260] (21) The markers are not limited to fixed types. For example, in the present embodiment, one slit is provided in the vertical direction of the screen 2121, markers are disposed so as to sandwich this slit, guide rails for sliding the markers along the slit are provided, and the markers are structured to be shiftable in the vertical direction while managing the position vertically with a drive means such as a motor. Thus, if the motor is driven so as to follow the position of the projected image, a single marker will realize the four markers in the present embodiment, and this may be treated as though existing in more numerous positions. Thus, the number of markers used may be reduced.

[0261] (22) In the second embodiment, although the projected image was drawn on the front face of the screen 2121, a mode is also possible to draw the game image in which the image from the projector is projected on both the front and back faces depending on the shape of the screen. Here, in order to concurrently use the markers on both the front and back faces of the screen and enable the imaging with the CCD camera, for example, markers comprising the respective LEDs may be integrally mounted, or individual LEDs may be preferably mounted on the entire face through the pores penetrating the radial thickness of the screen, and light from the light-emitting unit of the LED may be structured so as to be capable of emitting to both the front and back faces of the screen (this is the same in the case of a reflector, and,